

FieldStrength

Publication for the
Philips MRI Community

ISSUE 42 – DECEMBER 2010

Ingenia 3.0T benefits results and workflow in neuro MR

First Ingenia 3.0T* experiences at University of Michigan show “incredible” image quality, greater patient comfort, and vastly improved workflow.



This article is part of FieldStrength issue 42
December 2010



Suresh K. Mukherji, MD, FACR

Ingenia 3.0T benefits results and workflow in neuro MR



First [Ingenia 3.0T*](#) experiences at University of Michigan show “incredible” image quality, greater patient comfort, and vastly improved workflow.

“Ingenia image quality is incredible. It’s the best I’ve ever seen on a 3.0T system.”

The University of Michigan (Ann Arbor, Michigan, USA) is the first installation of the revolutionary new Ingenia 3.0T MR system: a large FOV wide bore system, featuring dStream architecture for superb digital signal, and vastly simplified coil and patient handling.

[Suresh K. Mukherji, MD, FACR](#), Professor of Radiology and Chief of Neuroradiology at the [University of Michigan Health System](#), says the Ingenia system is fantastic. “It has addressed many needs in MR, and Ingenia image quality is incredible. It’s the best I’ve ever seen on a 3.0T system.”

Improved image quality, speed and expandability

According to Dr. Mukherji the digital dStream architecture is a major innovation that not only benefits image quality but also speed and workflow. “Placing the patient on the table is much easier. Ingenia has the posterior coil embedded in the table, which just makes life much easier. Also the lightweight FlexCoverage anterior coil is easy to position. It has a very simple coil plug to put in, very accessible to the technologist,” says Dr. Mukherji. “In addition, the system automatically selects the coil

elements for optimized signal. Then dStream’s digitization in the coil and the use of fiber optic cable provides a clearly higher SNR, which can be used to reduce scan times.”

Ingenia’s Xtend imaging space provides increased homogeneity and image quality, and enables larger FOV. “Before Ingenia, we could not scan with the large FOV as needed in thoracic spine. Thanks to Xtend we can do that now with much better homogeneity and image quality,” adds Dr. Mukherji. “And, of course the 70 cm wide bore and large FOV allow us to scan more patients. With Ingenia’s improved workflow and efficiency, we expect that we’re going to be able to do more patients, more patient types and more body parts than we’ve done in the past, and that hopefully translates into better diagnosis and better treatment care for patients.”

“The digital dStream architecture is a major innovation that benefits image quality, speed and workflow.”

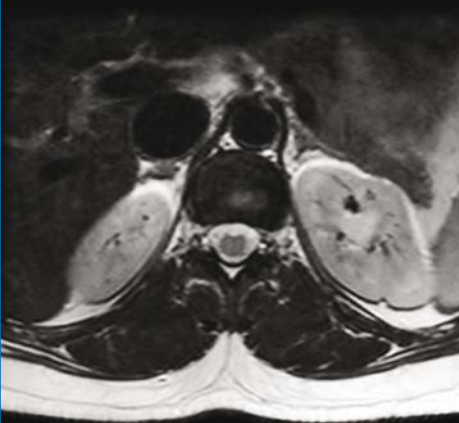
T1W TSE



T2W TSE CLEAR



T2W TSE CLEAR



Ingenia 3.0T delivers large FOV for total thoracic spine coverage in a single station.

Ingenia impacts neuro MR results

Dr. Mukherji believes that Ingenia has the potential to vastly improve neuro and head/neck imaging. “The field of view, homogeneity and image quality are much better. I think we’re going to be able to do more imaging of the lumbar spine, and better thoracic spine imaging, especially in obese patients and patients with degenerative changes. Also the higher speed benefits these patients, who often have difficulty lying still on the table. Making this easier and shorter for these patients will, in turn, benefit imaging results.”

Dr. Mukherji recalls, “We scanned one subject on Ingenia who could never have been scanned on a 60 cm system. The Ingenia wide bore is one major advantage here. He had a fair amount of adipose tissue and he couldn’t fit in the magnet. Many short, stout people have a lot of lordosis, and we have had problems with the dielectric effect in these cases. That is completely addressed on Ingenia due to MultiTransmit.”

Dr. Mukherji is also very excited about doing physiological and biological imaging such as fMRI, perfusion and spectroscopy. “We do these on a regular basis, but I expect them to be further improved with Ingenia. When we went from 1.5T to 3.0T, we saw a substantial improvement, and I think that’s going to be the case when we transfer these from our current 3.0T to Ingenia.”

“Because of the dStream digital RF architecture, the image quality and the improvements in patient workflow, I really feel that Ingenia is one of the best, if not the best 3.0T system available for neuro imaging,” says Dr. Mukherji. “Digital RF design and the dStream concept are clearly the future.” ■